

Appl. No. 10/799,895
Amdt. dated August 22, 2005
Amendment

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claims 1.-9. (canceled)

Claim 10. (currently amended) A semiconductor die package comprising:

(a) a carrier comprising a metal layer, a die attach region, and a plurality of bumps formed in the metal layer; and

(b) a semiconductor die electrically coupled to the die attach region of the carrier,
wherein the plurality of bumps are stamped bumps and are arranged around the
die attach region, and wherein each of the bumps has a height that is greater than or equal to a
thickness of the semiconductor die.

Claim 11. (canceled)

Claim 12. (original) The die package of claim 10 wherein the carrier comprises copper.

Claim 13. (original) The die package of claim 10 wherein the carrier comprises: a base metal with one or more coatings on the base metal.

Claim 14. (original) The die package of claim 10 wherein each bump has a conical angle greater than about 40 degrees.

Claim 15. (original) The die package of claim 10 wherein the semiconductor die comprises a vertical metal oxide semiconductor field effect transistor (MOSFET) device.

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Claim 16. (original) The die package of claim 10 wherein the semiconductor die comprises a vertical metal oxide semiconductor field effect transistor (MOSFET) device having a source region, a gate region, and a drain region, wherein the drain region is proximate to the die attach region of the carrier, and the source region and the gate region are distal to the die attach region of the carrier.

Claim 17. (original) The die package of claim 10 wherein each stamped bump has a conical shape.

Claim 18. (original) The die package of claim 10 wherein the bumps and the semiconductor die are at opposite sides of the carrier.

Claim 19. (original) The die package of claim 10 wherein the bumps and the semiconductor die are at the same side of the carrier.

Claim 20. (original) A semiconductor die package comprising:

(a) a carrier comprising metal layer, a die attach region, and a plurality of stamped bumps formed in the metal layer around the die attach region;

(b) a semiconductor die comprising a vertical metal oxide semiconductor field effect transistor (MOSFET) device having a source region, a gate region, and a drain region, wherein the drain region is electrically coupled to and proximate to the die attach region of the carrier, and the source region and the gate region are distal to the die attach region, and wherein the plurality of stamped bumps in the carrier are arranged around the semiconductor die; and

(c) a plurality of solder deposits disposed on the semiconductor die.

Claim 21. (original) The semiconductor die package of claim 20 wherein each of the bumps has a conical angle greater than about 40 degrees or more.

Claim 22. (original) The semiconductor die package of claim 20 wherein the carrier comprises copper.

Claim 23. (original) The semiconductor die package of claim 20 the plurality of bumps are formed simultaneously in the metal layer.

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Claims 24.-28. (canceled)

Claim 29. (new) A carrier for a semiconductor die package, the carrier comprising:

a metal layer;

a plurality of stamped bumps formed in the metal layer;

a die attach region for receiving a semiconductor die, wherein the die attach region is in the metal layer and is disposed between and connects stamped bumps on opposite sides of the semiconductor die,

wherein each of the stamped bumps in the plurality of bumps has a height greater than the semiconductor die.

Claim 30. (new) The carrier of claim 29 wherein the metal layer comprises copper.

Claim 31. (new) The carrier of claim 29 wherein the metal layer includes one or more sublayers of material on a base metal.

Claim 32. (new) The carrier of claim 29 wherein the each of the bumps has a conical angle greater than about 40 degrees or more.